

Network Management

Commitment to a digital fiber optic network permits Sprint to use a single transmission surveillance protocol to integrate internal network vendor equipment. This enhances Sprint's ability to automate and provide preventive, near real-time detection and isolation of network problems. The controlling principle is identification and correction of potential problems before they affect the New Jersey call capabilities.

Sprint divides the major functional responsibilities, facilities maintenance and network management, into a two-level organization which maximizes network efficiencies and customer responsiveness. The first level consists of the RCCs located in Atlanta and Sacramento. RCC personnel focus on the performance of individual network elements within predetermined geographical boundaries. The second level is the NOCC in Kansas City that oversees traffic design and routing for Sprint's 23,000-mile fiber optic network and interfaces.

This two-level operational control organization, combined with architectural redundancies in data transport and surveillance, control and test systems, ensures an expedited response to potential problems in both switched and private line networks.

In the event of a power outage, the UPS and backup power generator ensure seamless power transition until normal power is restored. While this transition is in progress, power to all of the basic equipment and facilities essential to the center's operation is maintained. This includes:

- Switch system and peripherals
- Switch room environmentals
- CA positions (consoles/terminals and emergency lights)
- Emergency lights (self-contained batteries)
- System alarms
- CDR recording

As a safety precaution (in case of a fire during a power failure), the fire suppression system is not electrically powered. Once the back-up generator is on line, stable power is established and maintained to all TRS system equipment and facility environmental control until commercial power is restored.

CAPTEL OUTAGE PREVENTION

Sprint will provide FCC compliant *CapTel* service from the two *CapTel* Service Centers in Madison and Milwaukee, WI. Sprint's *CapTel* vendor *CapTel Inc.* (CTI) operates the two current *CapTel* Service Centers in the nation. These unique Centers operate with enough terminals for 200 agents each, along with support personnel, Technicians, and Supervisors.

Both *CapTel* Service Centers are equipped with redundant systems for power, ACD/telecom switching equipment, call processing servers, data network servers, and LAN gear. Most equipment failures can be corrected without complete loss of service.

Having two *CapTel* Service Centers ensures minimum interruptions in service if something unexpectedly halts operations in one Center or the other such as a flood or a tornado. In those instances, traffic from one Center can automatically be routed to the other.

Appendix G: Disaster Recovery Plan

Sprint's comprehensive Disaster Recovery Plan developed for New Jersey details the methods Sprint will utilize to cope with specific disasters. The plan includes quick and reliable switching of calls, network diagrams identifying where traffic will be rerouted if vulnerable circuits become inoperable, and problem reporting with escalation protocol. Besides service outages, the New Jersey Disaster Recovery Plan applies to specific disasters that affect any technical area of Sprint's Relay network.

The first line of defense against degradation of New Jersey is the Intelligent Call Router (ICR) technology that Sprint employs. During a major or minor service disruption, the ICR feature bypasses the failed or degraded facility and immediately directs calls to the first available agent in any of Sprint's eleven fully inter-linked TRS Call Centers. State-specific call processing software resides at each of Sprint's Relay Call Centers. Communications Assistants (CAs) are trained in advance to provide service to other States; the transfer of calls between centers is transparent to users.

Beyond the ICR, Sprint's Disaster Recovery Plan details the steps that will be taken to deal with any problem, and restore New Jersey to its full operating level in the shortest possible time.

New Jersey Notification Procedure

To provide New Jersey with the most complete and timely information on problems affecting their TRS, the trouble reporting procedure for New Jersey will include three levels of response:

- A 3-hour verbal report
- A 24-hour status report
- A comprehensive final report within 5 business days

Sprint will notify the New Jersey within three hours if a service disruption of 30 minutes or longer occurs. For service disruptions occurring outside normal business hours, the initial report will be provided by 8:30 AM on the next business day. This initial report will explain how the problem will be corrected and an approximate time when full service will be restored. Within 24 hours of the service disruption, an intermediate report provides problem status and more detail of what action is necessary. In most cases, the 24-hour report reveals that the problem has been corrected and that full service to New Jersey has been restored. The final comprehensive written report, explaining *how and when the problem occurred*, corrective action taken, and time and date when full operation resumed will be provided to the New Jersey Administrator within five business days of return to normal operation. Examples of service disruption to New Jersey include:

- ACD failure or malfunction
- Major transmission facility blockage
- Threat to New Jersey CA's safety or other CA work stoppage
- Loss of CA position capabilities
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Performance at each Sprint relay center is monitored continuously 24 hours a day, seven days a week from Sprint's Enhanced Services Operation Control Center (ESOCC) in Overland Park, KS.

Disaster Recovery Procedures

If the problem is within the relay center serving New Jersey, maintenance can usually be performed by the on-site technician, with assistance from Sprint's ESOC. If the problem occurs during non-business hours and requires on-site assistance, the ESOC will page the technician to provide service remedies. Sprint retains hardware spares at each center to allow for any type of repair required without ordering additional equipment (except for complete loss of a center).

Time Frames for Service Restoration

Complete or Partial Loss of Service Due to Sprint Equipment or Facilities

- **Sprint Call Center Equipment** - A technician is on-site during the normal business day. The technician provides parts and / or resources necessary to expedite repair within two hours. Outside of the normal business day a technician will be on-site within four hours. The technician then provides parts and /or resources necessary to expedite repair within two hours.
- **Sprint or Telco Network Facilities** - For an outage of facilities directly serving New Jersey, incoming TRS calls will immediately be routed to one of ten other centers throughout the US. No calls will be lost. Repair of fiber or network facilities typically requires less than eight hours.
- **Due to Utilities or Disaster at the Center** - Immediate rerouting of traffic occurs with any large-scale center disaster or utility failure. Service is restored as soon as the utility is restored, provided the Sprint equipment has not been damaged. If the equipment has been damaged the service restoration for Sprint equipment (above) applies.
- **Due to Telco Facilities Equipment** - A Telco equipment failure will not normally have a large effect on TRS traffic within the state unless it occurs on Telco facilities directly connected to the call center. In this case, normal Sprint traffic rerouting will apply. For a failure at a telco central office - In (CITY), for example, only local (CITY) residents would be affected until the Telco has performed the necessary repairs. For situations like this, it will be at Sprint's discretion to dispatch a technician. The normal Telco escalation procedures will apply. The Telco escalation process is all during the normal business day; therefore, a trouble may be extended from one day to the next.

Trouble Reporting Procedures

The following information is required when a New Jersey user is reporting trouble:

- Service Description ("New Jersey")
- Caller's Name
- Contact Number
- Calling to/Calling from (if applicable)
- Description of the trouble

Service disruptions or anomalies that are identified by New Jersey users may be reported to the Sprint Relay Customer Service 800 number (800-877-0996) at any time day or night, seven days a week. The Customer Service agent creates a trouble ticket and passes the information on to the appropriate member of Sprint's Maintenance Team for action. Outside the normal business day, the ESOC will handle calls from the Customer Service agents 24 hours a day, 7 days a week.

The Maintenance Team recognizes most disruptions in service prior to customers being aware of any problem. Site technicians are on call at each of Sprint's 11 TRS Call Centers to respond quickly to any event, including natural disasters.

Mean Time to Repair (MTTR)

MTTR is defined and detailed in Tables A-1 and A-2:

Table A-1 Time to Investigate + Time to Repair + Time to Notify

Time to Investigate	The time needed to determine the existence of a problem and its scope.
Time to Repair	Repair time by Field Operations plus LEC time, if applicable.
Time to Notify	From the time repair is completed to the time the customer is notified of repair completion.

Table A-2 Current MTTR Objectives

Switched Services	8 Hours
Private Lines	4 Hours (electronic failure)
Fiber Cut	8 Hours

Sprint's Mean Time to Repair is viewed from the customer's perspective. A critical element in the equation is the Time to Notify, because Sprint does not consider a repair complete until the customer accepts the circuit back as satisfactory.

Escalation Procedures

If adequate results have not been achieved within two hours, a New Jersey user may escalate the report to the next level. Table A-3 details the escalation levels.

Table A-3 Escalation Levels

2	Regional Maintenance Manager	Office Phone Number (913) 253-4394 Cell Phone Number Cell Phone 913-484-2263
3	Senior Manager, Technical Staff	Office Phone Number (913) 253-4396

Service Reliability

Sprint's service is provided over an all-fiber sophisticated management control networks support backbone networks with digital switching architecture that. These elements are combined to provide a highly reliable, proven, and redundant network. Survivability is a mandatory objective of the Sprint network design. The Sprint network minimizes the adverse effect of service interruptions due to equipment failures or cable cuts, network overload conditions, or regional catastrophes.

A 100 percent fiber-optic network, with significant fiber miles in New Jersey, provides critical advantages over the other carriers. These advantages include:

- **Quality**

Since voice or data are transmitted utilizing fiber optic technology, the problems of outdated analog and even modern microwave transmission simply do not apply. Noise, electrical interference, weather-impacting conditions, and fading are virtually eliminated.

- **Economy**

The overall quality, architecture, and advanced technology of digital fiber optics makes transmission so dependable that it costs us less to maintain, thereby passing the savings onto our customers.

- **Expandability**

As demand for network capacity grows, the capacity of the existing single-mode fiber can grow. Due to the architecture and design of fiber optics, the capacity of the network can be upgraded to increase 2,000-fold.

- **Survivability**

Network survivability is the ability of the network to cope with random disruptions of facilities and/or demand overloads. Sprint has established an objective to provide 100 percent capability to reroute backbone traffic during any single cable cut. This is a significant benefit to New Jersey and a competitive differentiation of the Sprint network.

Currently, Sprint has over 23,000 miles of its fiber network in place and in service, with a fiber point of presence (POP) in every Local Access Transport Area (LATA). The 3 LATAs in New Jersey are served by one Sprint POP. There are plans for additional fiber mileage, additional POPs, and added route diversity. There are more than 300 POPs in service on the network. With the one POP in the state, all areas will be adequately serviced by Sprint.

Switched services are provided via 49 Northern Telecom DMS-250/300 switches at 29 locations nationwide. Three DMS-300s located at New York, NY; Fort Worth, TX; and Stockton, CA, serve as international gateways. The remaining 46 switches provide switching functions for Sprint's domestic switched services. New Jersey would primarily be served by the DMS switches in Clinton and New Jersey, with other diversely located facilities also serving New Jersey.

Interconnection of the 49 switches is provided in a non-hierarchical manner. This means that inter-machine trunk (IMT) groups connect each switch with all other switches within the network. Each of these IMT groups is split and routed through the Sprint fiber network over SONET route paths for protection and survivability. As an extra precaution to preclude any call blockage, Dynamically Controlled Routing (DCR) provides an additional layer of tandem routing options when a direct IMT is temporarily busy.

Reliability is ensured through a corporate commitment to maintain or surpass our system objectives. Beginning with the network design, reliability and efficiency are built into the system. Sprint continues to improve the network's reliability through the addition of new technologies such as Digital Cross-connect Systems, SONET, and Signaling System 7.

The effectiveness of this highly reliable and survivable network is attributed to the redundant transmission and switching hardware configurations, SONET ring topology, and sophisticated network management and control centers. These factors combine to assure outstanding network performance and reliability for New Jersey.

Network Criteria

System Capacity

The Sprint network was built with the capacity to support every interLATA and intraLATA call available in the US. With the continuing development of network fiber transmission equipment to support higher speeds and larger bandwidth, the capacity of the Sprint network to support increasing customer requirements and technologies is assured well into the future.

Sprint Outage Notification from CapTel Service Center

Performance at the CapTel Service Center is monitored continuously by CTI technicians 24 hours a day, seven days a week. Sprint will be notified by the CapTel Service Center Manager immediately upon determination of any type of natural or man-made problem that causes either:

- A complete (100 percent) loss of the CapTel Service Center, OR
- Any partial loss of service in excess of 15 minutes that is service affecting. Examples of such a loss in service include:
 - An accidental switch rebooting
 - Loss of transmission facilities through the telephone network
 - Terrorist attack
 - Bomb threat or other work stoppage
 - Sudden loss of agent position capabilities.
 - Impact to minimum ASA / Speed of Answer times
 - Acts of God

Contact from the CapTel Service Center Manager or designated CTI contact person will be made to the assigned contact people at Sprint immediately upon awareness of an outage meeting the above criteria, 24 hours a day, seven days a week including holidays with the following documentation:

- 1) What time did the outage happen in CENTRAL TIME?
- 2) What caused it?
- 3) Which customers are (or were) impacted?
- 4) What is (was) the solution to restore service?
- 5) What is the time that service will be (or was restored by) IN CENTRAL TIME?

Sprint Procedure for Outage Notification to Contract Administrators during Business Hours

Upon receiving notification from CTI during business hours (8AM to 5PM CT), Sprint will have one of the below managers contact the Contract Administrator, depending on availability:

John Moore	Relay Program Management Mgr	P: (925) 468-4345 M: (925) 895-9176 E: John.E.Moore@sprint.com
Angela Officer	Relay Program Manager	P: (703) 689-5654 E: Angela.Officer@sprint.com
Assigned On-Call Relay Program Manager	Relay Program Manager	Assigned as necessary

Upon receiving notification from CTI, Sprint will assess the problem and contact will be made by email to the Contract Administrator.

In cases of partial loss of service, such as several inoperable CA positions or, local area network outages, the *CapTel* Center on-site technician will notify *CapTel* Service Center to schedule repair. Only those partial losses of service that are service affecting in excess of 15 minutes will be email to the state Contract Administrator.

If the problem is within the *CapTel* Center, maintenance can usually be performed by the on-site technicians. Hardware spares are retained at the *CapTel* Service center to allow for the most common type of repair required without the ordering of additional equipment.

Sprint Procedure for Outage Notification to Contract Administrators outside of Business Hours

Upon receiving notification from CTI outside of business hours (5PM to 8AM CT, Monday through Friday, and all day Saturday, Sunday and holidays), John Moore (or Angie Officer) will notify Contract Administrators immediately by email of an outage if possible, but by no later than 8AM CT the next business day. Follow-ups and post-mortem will still be provided within the required guidelines.

Disaster Recovery Follow-Up

Upon notifying customers of an outage, Sprint's contact person will provide regular updates from CTI to all customers and internal team members. The follow up will be kept in sync with *CapTel* Customer Service so that the information shared with customers from CTI is the same as what customers receive from Sprint.

Disaster Recovery Post-mortem documentation

72 hours (3 days) after the outage is resolved, CTI will need to provide a formal written analysis of the outage to the designated Sprint people (outlined above).

Sprint will send a document with the analysis to the Contract Administrator. John Moore will be the primary point of contact for the letter to be shared with customers. If John Moore is not available, then Angie Officer will provide the letter directly to customers.

- 1) What time did the outage happen in CENTRAL TIME?
- 2) What caused it?
- 3) Which customers are or were impacted?
- 4) What is the solution to restore service?
- 5) What is the time that service will be or was restored IN CENTRAL TIME?
- 6) What will *CapTel*, Inc do to prevent this from happening again?

CTI will be available to answer questions from Contract Administrators through Sprint.

Time Frames for Service Restoration

Complete loss of service due to equipment -

- Normal business day – A technician is on site during the normal business day. The technician will provide parts and/or resources necessary to expedite repair of the most common problems within two (2) hours.
- Outside of the normal business day – A technician will be on-site within four (4) hours. The technician will then provide parts and/or resources necessary to expedite repair of the most common problems within two (2) hours.

Due to Utilities or Disaster at the Center – Service will be restored as soon as the utility is restored provided the equipment was not damaged. If the equipment was damaged then refer to the timing in the statement previous (Due to Equipment).

Due to Telco Facilities Equipment – A technician will be dispatched as necessary. The normal Telco escalation procedures for a partial outage will apply:

- Two hours at first level
- Four hours at second level
- Eight hours at third level

These hours of escalation are all during the normal business day, so a trouble ticket may be extended from one day to the next.

Partial loss of service – Due to Equipment

- Normal business day – A technician is on site during normal business hours. The technician will provide parts and/or resources necessary to expedite repair of the most common problems within four (4) hours.
- Outside of the normal business day – A technician will be on-site within eight (8) hours. The technician will then provide parts and/or resources necessary to expedite repair of the most common problems within four (4) hours.

Due to Position Equipment – A technician will be on-site within eight (8) hours, provided there are not enough positions working to process the forecasted traffic volumes. The technician will provide parts and/or resources necessary to expedite repair within 48 hours. If there are enough positions functional to process the forecasted traffic, the equipment will be repaired as necessary by Sprint.

Due to Telco Facilities Equipment – A technician will be dispatched as necessary by Sprint. The normal Telco escalation procedures for a partial outage will apply:

- Eight hours at first level
- Twenty-four hours at second level

These hours of Telco escalation are all during the normal business day, so a service request may be extended from one day to the next.

Trouble Reporting Procedures (for Individual Customers to Customer Service)

All calls concerning customer service issues should be placed by dialing the *CapTel* Customer Service at 1-888-269-7477 (800-482-2424 TTY) in English only. A Customer Service agent will take information concerning:

- Caller's Name
- Contact Number
- Calling to / Calling from (if applicable)
- Description of the trouble

Report service affecting trouble to Customer Service during normal business hours, 8:00 AM to 5:00 PM Central Time, Monday through Friday. Normal business hours do not include Saturday, Sunday, and holidays.

Escalations of service affecting issues during normal business hours are followed below:

CapTel Customer Service	Customer Service Agent	(888) 269-7477 captel@captelmail.com
CapTel Customer Service Supervisor	Pam Holmes	(888)-269-7477 Pam.Holmes@captelmail.com
Captioned Telephone Inc.'s (CTI) Call Center Director	Pam Frazier Call Center Director	(877) 437-4660 Pam.Frazier@captelmail.com

Table 4 – CapTel Customer Service Escalation Procedures

Hours outside the normal business day are 5:00 PM to 8:00 AM Central Time for every day of the week (Monday through Friday), and all day Saturday, Sunday, and holidays. Outside of normal business day hours, a recording will play and trouble calls can leave a message for customer service to follow up during the next business day.

The recording played to customers outside of CapTel customer service business hours:

Thank you for calling CapTel customer service. Our hours are Monday through Friday from 8AM to 5PM central time. You may try again during business hours or leave a voice mail message by pressing 3 now.

If the "3" button is pressed, then the customer will hear the following message:

Thank you for calling CapTel customer service. We are unable to take your call at this time. Please leave a detailed message with your name and phone number with area

code, or email address, and a reason for your call, and one of our representatives will return your call as soon as possible.

Alternative usage for CapTel phone during outage for VCO users.

CapTel phones are equipped with the capability to connect to traditional relay services even in the event that the captioning service is not available.

In the event that a user cannot reach the captioning center, and the user desires to use any form of available relay to connect their call, the user can dial 711 (user must dial only 711 and not a relay 800 number in order to change to VCO mode) and be connected to the in-state relay call center. Their call will be processed via VCO instead of captions. In VCO mode, no audio from the called party will be processed – just like any other traditional VCO call.

Appendix H: Sprint TRS Standard Features Matrix

Mandatory Features	Description/Benefit	Cost
Answering Machine Retrieval	This feature allows Relay callers to retrieve their answering machine or voice-mail messages through the CA (Relay Agent, Relay Operator, Communication Assistant), referred to in this document as "CA".	No Additional Cost
ASCII Split Screen	The feature enables an ASCII user to communicate with the Relay in full duplex mode. Similar to voice-to-voice conversation, it provides interrupt capability as appropriate for the ASCII user and the voice party.	No Additional Cost
Automated Number Identification (ANI) Technology	ANI is the telephone number of the line initiating a call. The number is identified by the switch and passed over the network to the CA workstation.	No Additional Cost
CA Typing Speed	Text transmission of 60 wpm.	No Additional Cost
CA 10-minute In-call replacement	CAs are required to stay with a TRS call for a minimum of 10 minutes and with a STS call for minimum of 15 minutes.	No Additional Cost
Caller ID	Caller ID featuring SS7 technology is used to deliver the ten digit phone number of the calling party, when not blocked through the LEC for local and toll calls.	No Additional Cost
Call Response Time	Call response time is measured from the time it takes the call to hit the CA position from the Relay Center call controller switch. Sprint will adhere to the State's requirements regarding answer time.	No Additional Cost
Background Noises	During the call, TTY callers will be informed of background noises through CA's tying in parenthesis.	No Additional Cost
Beepers and Pagers	Sprint provides functionally equivalent pager calls, which are made to beepers and pagers, interactively and non-interactively. Calls are relayed between interactive paging services and the Relay users. For non-interactive paging services, calls are made to leave specific numeric information to accomplish those calls.	No Additional Cost
Branding of Call Type - Temporary	This feature refers to the system's ability to answer an incoming call based on the previous call in the caller's communication mode (TTY, Voice, ASCII, VCO, HCO, Spanish, Turbo Code, Deaf-Blind).	No Additional Cost
Branding of Call Type - Permanent	This feature refers to the system's ability to brand the caller's preferred communication mode - TTY, Voice, ASCII, VCO, HCO, Spanish, Turbo Code, Deaf-Blind - permanently.	No Additional Cost
Carrier-of-Choice	This feature allows Relay callers to choose their preferred Carrier for interstate/international and in some cases intra-island calls.	No Additional Cost
Cellular/PCS Phone Access	Allows Relay Cellular customers to reach the Relay 800 number(s) to complete Relay calls.	No Additional Cost
Custom Calling Services	Through the Customer Database feature, this feature allows Relay callers to have traditional LEC services i.e. frequently called numbers.	No Additional Cost
Customer Database	Allows Relay callers to enter specific information in a profile i.e. Carrier-of-Choice, emergency numbers, last number redial, customer notes, frequently dialed numbers, etc. to expedite their call set-up time.	No Additional Cost

Mandatory Features	Description/Benefits	Cost
Name and Address	This information could save valuable time when calling emergency services.	No Additional Cost
Long Distance profile	Callers' preferred Carrier for in-State and out-of-state long distance calls. Callers can also indicate their preferred billing option when placing long distance calls.	No Additional Cost
Frequently Dialed Numbers	This feature allows users to set up and access "speed dial" calls through the Relay.	No Additional Cost
Outdial Information	This feature allows the CA to be aware as to how the caller answers the phone and which language type they will communicate in.	No Additional Cost
Customer Notes	This feature informs the CA of special requests to handle calls i.e. "do not announce the service", preferred CA gender, etc.	No Additional Cost
Outdial Restrictions	Callers may restrict the type of call i.e. long distance, international, 900, etc. to be placed through the Relay.	No Additional Cost
Emergency Numbers	Callers may enter emergency numbers such as fire, doctor, police, etc. to expedite the emergency call processing.	No Additional Cost
Customized 800 Access	Each State has dedicated Relay 800 numbers to access the Relay service.	No Additional Cost
Deaf-Blind Pacing (Slow-typing)	This feature provides functionality that automatically slows the transmission of data to Deaf-Blind users. The default speed is 15 wpm and the speed can be increased at the caller's request in 5-wpm increments.	No Additional Cost
Delayed Call Announcer	Sprint sends a delayed call announcer when the call is not answered within 30 seconds. The feature alerts Relay callers that they are on-line and on hold for next available CA.	No Additional Cost
Dialed Number Verification	This feature echoes the number being outdialed and the call type in the TTY Dial string macro. This feature helps TTY callers know if a number has been misdialled and the type of call they are placing.	No Additional Cost
Directory Assistance (Intrastate/Interstate)	This feature allows Relay callers to reach Directory Assistance at rates no greater than that of traditional voice users. When the number is obtained, the caller may choose to place the call through the Relay or dial direct.	No Additional Cost
Emergency Assistance	This service provides emergency assistance for Relay callers through Sprint's E911 database and/or their Customer Database profile.	No Additional Cost
Enhanced Modems	Sprint's TRS modems support enhancements in ASCII communication protocols. The capabilities of Sprint's modems include auto detection; connections with modems up to 14.4k; and faster ASCII detection (3 seconds).	No Additional Cost
Error Correction	Sprint Relay workstations are equipped with the Error Correction capability to automatically correct common typographical errors and spell out abbreviations, while increasing typing speed and reducing conversational minutes.	No Additional Cost
Gender ID	This feature provides the gender of CAs in the TTY greeting macro.	No Additional Cost

Mandatory Features	Description	Cost
Hearing-Carry-Over (HCO)	HCO allows speech-disabled or mute users with normal hearing to listen to the person they are calling. The HCO user types his/her conversation for the CA to read and voice to the standard (voice) telephone user.	No Additional Cost
HCO-HCO	HCO users can contact HCO users through the Relay. The CA will voice to both parties what is typed on each user's TTY.	No Additional Cost
HCO Permanent Branding	The permanent branding enables HCO callers to listen during call set-up. The HCO brand greeting macro is: [STATE]RELAY 1234F YOU MAY HEAR VOICE OR USE TTY GA	No Additional Cost
HCO-TTY	HCO users can contact TTY users through the Relay. HCO users can listen while the CA is reading/voicing the TTY user's typed message. The HCO user types their conversation directly to the TTY user.	No Additional Cost
Voice-Carry-Over (VCO)	VCO allows Deaf or Hard-of-Hearing people who prefer to use their own voice to speak directly to the party they are calling. The CA types the voiced responses back to the VCO user who can read the typed messages across the TTY screen.	No Additional Cost
Two-line VCO	This feature allows VCO callers with two telephone lines to use one line to speak directly to the hearing person while the other line is used to receive the CA's typed responses simultaneously. Two-Line VCO offers a more natural flow of conversation without pauses required with single line calls.	No Additional Cost
Reverse 2-Line VCO	This feature is similar to Two-line VCO. In R2LVCO, a VCO user receives a call from a voice user first then dials/connects the Relay CA.	No Additional Cost
VCO-HCO	VCO users can contact HCO users through the Relay. The VCO user speaks directly to the HCO user and the HCO user types their conversation directly to the VCO user.	No Additional Cost
VCO-VCO	VCO users can contact other VCO users through the Relay. The CA listens to VCO users speak and type the spoken words for the parties at both ends.	No Additional Cost
VCO-TTY	VCO users can contact TTY users through the Relay. The VCO user can use his/her own voice and the CA will listen to the VCO caller's spoken words then type the message to the TTY user. The TTY user types directly to VCO user without any CA interaction.	No Additional Cost
VCO w/ Privacy/NO GA	This is similar to the standard VCO feature however; the CA will not hear the VCO caller speaking through the Relay. The CA will only type voiced responses back to the VCO user.	No Additional Cost
VCO Permanent Branding	This feature enables VCO callers to set-up the call without typing. The permanent VCO brand greeting macro would be: [STATE]RELAY 1234F VOICE (OR TYPE) NOW GA	No Additional Cost
Inbound International	From any international destinations outside of United States, callers can reach the Relay through Sprint's international inbound 10-digit number- 605-224-1837.	No Additional Cost
Intelligent Call Router	Dynamic Call Routing technology automatically and seamlessly routes Relay calls to the first available English or Spanish CA in the network.	No Additional Cost
Intercept Message	This feature provides intercept messages in voice and TTY in event of system failure occurrence within the Relay switch, Center, or outbound circuits.	No Additional Cost

Mandatory Features	Description/Benefits	Cost
Last Number Redial	Relay users can request the CA to redial their last number. Sprint TRS is designed to store the user's last number dialed and it is dialed upon the user's command, "LAST NUMBER REDIAL PLS GA" OR "LNR GA".	No Additional Cost
Local/Extended Area Service	Callers who subscribe to extended area service plans will receive equivalent service through the Relay.	No Additional Cost
Machine Recording Capabilities	This feature reduces redials when CAs receive audio-text interaction machines. In most cases, it allows the callers to receive all of the information on the first call and eliminates the number of redials.	No Additional Cost
Restricted 800/888/877/866/855	This feature allows Relay callers to reach regionally restricted or regionally directed 800/888/877/866/855 toll-free numbers.	No Additional Cost
Spanish-to-Spanish	Sprint offers Spanish Services, which offers Spanish-to-Spanish Relay service, which are handled by proficient bilingual (Spanish) CAs. Their workstations are modified to provide macros and other functions to the caller in Spanish.	No Additional Cost
Speech Disabled Indicator	The command "S" typed by a Speech-Disabled person would inform the CA that a Speech-Disabled person is on the line.	No Additional Cost
Speech-to-Speech	This service enables Speech-Disabled customers to use their voice, with assistance from CA if necessary, to communicate with each other through the Relay.	No Additional Cost
Text/Voice Transmission	This feature offers the ability to toggle between inbound TTY, ASCII, TurboCode™, and Voice calls.	No Additional Cost
Toll Discounts	When calls are carried over the Sprint network, intrastate calls are typically discounted by 35% Day, 25% Evening, and 10% Night/ Weekend off intrastate MTS rates and interstate calls are discounted by 50% off interstate MTS rate. State specific requirements may result in a change to the standard discounts.	No Additional Cost
Transfer Gate capabilities	Sprint's system has the capability of transferring Relay callers to English TTY Operator Service and Relay 24-hour Customer Service.	No Additional Cost
TRS Customer Service	Relay users can reach Sprint's TRS Customer Service, which is available 24 hours-a-day, 7 days-a-week to request information, or to offer commendations and submit complaints. The toll-free number is: 1-800-676-3777 TTY/Voice/ASCII/Spanish.	No Additional Cost
TTY Operator Services (OSD)	Sprint's TTY Operator services can complete TTY-to-TTY calls; obtain Directory Assistance information; or receive credit for erroneous billing. The toll-free number is: 1-800-855-4000.	No Additional Cost
TurboCode™	This feature allows enhanced baudot transmission speed up to 110 words-per-minute. It enables TTY callers with TurboCode™ capability to interrupt during the transmission of the call.	No Additional Cost
Variable Time Stamp Macro	This feature (macro) enables Relay callers to know when their called party had disconnected and relays the last spoken words.	No Additional Cost
Voice Call progression	This system upgrade allows Voice or HCO callers to listen during call set-up i.e. ringing, busy.	No Additional Cost
Voice Gender ID	This feature (macro) informs the outbound TTY caller the gender of their caller.	No Additional Cost

Mandatory Features	Description/Benefits	Cost
Pay-Per-Call	Sprint provides access to Pay-Per-Call Services (900) via a toll-free 900 number which observes LEC restrictions so that customers do not have to register blocks with the Relay.	No Additional Cost
7-1-1	With cooperation of Local Exchange Companies, the Relay can accept 711 calls.	No Additional Cost

Appendix I: Policy on 10- and 15-Minute Rule

Sprint understands that a change of CAs can interrupt the natural call flow. Therefore, Sprint strives to keep the same CA dedicated to each call. Sprint will ensure that the CA remains on the call for at least 10 minutes (or 15 minutes for Speech-to-Speech call). If a change of CA is unavoidable, CAs are trained to make this transition as smoothly as possible and will inform both parties.

A CA change may occur for the following reasons:

- Customer requests change of CA
- End user verbal abuse of CA or obscenity towards CA
- The call requires a specialist (Speech to Speech, another language)
- Illness
- Potential conflict of interest (i.e. the CA identifies an end user as a family member or friend)

In instances where it is necessary to change CAs, a second CA will plug in their headset at the position and watch the call for several minutes in order to assess the "spirit" of the call and make the transition smoother. After several minutes of observation, the second CA will wait until the voice person stops speaking and all conversation has been relayed and will then type to the TTY user:

(CA# CONTINUING UR CALL).

The CA will say to the non-TTY user:

"THIS IS CA # CONTINUING YOUR CALL."

During initial training, trainees are required to practice this procedure. In addition, a training video was developed that clearly shows the procedure and how to ensure it is as smooth as possible.

Appendix J: FCC TRS Mandatory Minimum Standards & Compliance Matrix

FCC Order Ref. 90- 571	FCC Requirement	Sprint's Commitment
Provision of Services		
	Each common carrier providing telephone voice transmission services shall provide, not later than July 26, 1993, in compliance with the regulations prescribed therein, throughout the area in which it offers services, telecommunications relay services, individually, through designees, through a competitively selected vendor, or in concert with other carriers.	Sprint has been a TRS provider since September 1, 1990. As of July 1, 2004, Sprint provides TRS to 32 States, the Federal Government, Commonwealth of Puerto Rico, and three resellers.
	Speech-to-speech relay service shall be provided by March 1, 2001.	Sprint was the first TRS provider to offer Speech-to-speech relay service (California, 1996).
	Interstate Spanish language relay service shall be provided by March 1, 2001.	Sprint was the first TRS provider to offer intrastate and interstate Spanish services (Texas, 1991). As a standard offering of TRS, Sprint provides Spanish services to the States. Sprint also is the only TRS provider to offer Spanish-speaking Customer Service.
	In addition, not later than October 1, 2001, access via the 711 dialing code to all relay services as a toll free call.	Sprint fully implemented 711 accesses for all of its States on October 1, 2001. Sprint Local and wireless divisions have implemented 711 access on September 15, 2001.
Operational Standards		
	Communications Assistant (CA) Competency Skills	
	CAs are to be sufficiently trained to effectively meet the specialized communications needs of individuals with hearing and speech disabilities.	Sprint requires that all CAs have a high school graduate equivalency as a minimum qualification for the job.
	CAs must be competent skills in typing, grammar, spelling, and interpretation of typewritten ASL, familiarity with hearing and speech disability cultures, languages, and etiquette.	All CAs are tested and evaluated to ensure Relay skills meet the following FCC Guidelines. CA training provides familiarity with hearing, deaf, and Speech-Disabled cultures and ASL translation.
	Typing Speed - 60 WPM with technological aids	Each Sprint CA is required to take the 60 WPM typing test quarterly (four times a year).
	Oral-to-type tests	Sprint administers Oral-to-type tests.

FCC Requirement

Sprint's Commitment

	<p>VRS 'qualified' Interpreters</p>	<p>Sprint VRS interpreters are qualified interpreters that adhere to RID Code of Ethics.</p>
	<p>Confidentiality & Conversation Context</p> <p>CAs are prohibited from disclosing the content of any relayed conversation regardless of content</p> <p>Certain exceptions are provided for Speech-to-Speech calls.</p> <p>CAs are prohibited from intentionally altering a relayed conversation and must relay all conversation verbatim unless specifically requested to do otherwise</p>	<p>CAs are trained and evaluated to ensure all aspects of confidentiality are maintained and conversational context is properly provided.</p> <p>Sprint CAs are prohibited from disclosing any call content.</p> <p>STS CAs are permitted to retain info from a call in order to facilitate the completion of consecutive subsequent calls.</p> <p>CAs relay calls verbatim and do not alter relayed conversation.</p> <p>During the annual merit reviews, each CA reviews the confidentiality and code of ethics with his/her team supervisor.</p>
	<p>Types of Calls</p> <p>CAs are prohibited from refusing single or sequential calls or limiting the length of calls utilizing relay services.</p> <p>TRS shall be capable of handling any type of call normally provided by common carriers.</p>	<p>CAs process all calls and never prohibit sequential calls or limit length of calls.</p> <p>Sprint TRS is capable of handling all call types normally provided by common carriers</p>
	<p>Handling of Emergency Calls</p> <p>Providers must use a system for incoming emergency calls that, at a minimum, automatically and immediately transfers the caller to an appropriate PSAP.</p> <p>A CA must pass along the caller's number to the PSAP when a caller disconnects before being connected to emergency services.</p>	<p>Via E911 database, Sprint automatically and immediately connects the caller to an appropriate PSAP.</p> <p>CAs pass along the caller's number to the PSAP when the caller disconnects prior to be connected to the emergency service.</p>
	<p>In-call Replacement of CAs</p> <p>CAs answering and placing a TTY-based TRS or VRS call must stay with the call for a minimum of 10</p>	<p>TRS and VRS CAs stay on the call for a minimum of 10 minutes.</p>

FCC Order Ref. 90- 571	FCC Requirement	Sprint's Commitment
	<p>minutes.</p> <p>STS CAs - 15 minutes.</p> <p>CA Gender Preferences</p> <p>TRS providers must make best efforts to accommodate a TRS user's requested CA gender when a call is initiated and, if a transfer occurs, at the time the call is transferred to another CA.</p>	<p>STS CAs stay on the call for a minimum of 15 minutes.</p> <p>Sprint users are able to request the gender of the CA. Sprint makes every effort to satisfy this request and to maintain the same gender during transfers.</p>
	<p>STS Called Numbers</p> <p>STS users must be provided the option to maintain a list of names and phone numbers that the STS user calls. When the STS user requests one of these names, the CA must repeat it and state the phone number to the STS user.</p> <p>This information must be transferred to any new provider.</p>	<p>Sprint offers STS users the option of maintaining a list of names and phone numbers. When the STS user requests a name, the STS CA will repeat the name and the number to user.</p> <p>Sprint will provide the STS user information to any new provider.</p>
Technical Standards		
	<p>ASCII & Baudot</p> <p>TRS shall be capable of communicating with ASCII & Baudot format at any speed generally in use.</p>	<p>Sprint TRS communicates with Baudot and ASCII in all speeds that are generally in use.</p> <p>The following Baudot codes are available on Sprint TRS' platform: Baudot 45.5, Baudot 50, Turbo Code, and E Turbo Code.</p>
	<p>Speed of Answer</p> <p>TRS shall include adequate staffing to ensure 85% of all calls answered within 10 seconds by any method which results in the caller's call immediately being placed, not put in a queue or on hold.</p> <p>Abandoned calls shall be included in the speed-of-answer calculation.</p> <p>Speed of Answer is to be measured on a daily basis.</p> <p>The system shall be designed to a P.01 standard.</p>	<p>Sprint ensures that 85% of all calls are answered within 10 seconds and that caller's calls are immediately placed. Sprint does not put calls in a queue or on hold.</p> <p>Abandoned calls are included in the speed-of-answer calculation.</p> <p>Speed of Answer is measured on a daily basis.</p> <p>Sprint's system is designed to the P.01 standards.</p>

Equal Access to IXCs

TRS users shall have access to their chosen IXC carrier through the TRS and to all other operator services, to the same extent that such access is provided to voice users.

Sprint provides users with access to their IXC carrier through the Sprint Carrier of Choice program allowing for the same access that is provided to voice users.

TRS Facilities

TRS shall operate everyday, 24 hours a day.

Sprint TRS is available 24 hours a day, everyday.

TRS shall have redundancy features functionally equivalent to the equipment in normal central offices, including uninterruptible power for emergency use.

Sprint has redundancy features that provide functional equivalency, including uninterruptible power for emergency use.

Adequate network facilities shall be used in conjunction with TRS.

Sprint's network facilities are sufficient to ensure that the probability of a busy response due to loop trunk congestion is functionally equivalent to what a voice caller would experience.

Technology

No regulation set forth in this subpart is intended to discourage or impair the development of improved technology that fosters the availability of telecomm to people with disabilities.

Sprint is the nation's leader in the development and offering of technological features for TRS. Sprint has introduced over fifty key product enhancements including Split Screen ASCII, Customer Database, Turbo Code, E Turbo Code/Dial Through, Gated VCO, Voice call progression.

VCO & HCO technology are required to be standard features of TRS.

Sprint provides VCO and HCO technology as standard features as well as several variations on these technologies.

Voicemail & Interactive Menus

CAs must alert the TRS user to the presence of a recorded message & interactive menu thru a hot key on the CA's terminal.

CAs keep the user informed and notify of the presence of recorded messages and interactive menus. CA positions have hot key functionality that electronically capture recorded messages and retain them for the length of the call.

TRS providers shall electronically capture recorded messages & retain them for the length of the call, & may not impose any charges for additional calls that must be made by the user in order to complete

Sprint does not charge for any additional calls necessary to complete call involving recorded or interactive menus.

calls involving recorded or interactive messages.

TRS will handle pay-per-calls.

Sprint was the first provider to process pay-per-calls (Texas, 1996).

Functional Standards

Consumer Complaint Logs

States must maintain a log of complaints including all complaints about TRS to include minimum include the date the complaint was filed, the nature of the complaint, the date of resolution and an explanation of the resolution.

States & TRS providers shall submit to the FCC by July 1 of each year, summaries of logs indicating the number of complaints received for the 12-month period ending May 31.

Sprint maintains a log of all complaints. The log includes all of the required fields including the date, the nature, the date of resolution, and the explanation of resolution.

Sprint provides summaries of the logs, which indicate the number of complaints received for a 12-month period ending May 31st.

Sprint has submitted annual summary of Consumer Complaints log report:

June 1, 2002-May 31, 2003
June 1, 2003-May 31, 2004
June 1, 2004-May 31, 2005
June 1, 2005-May 31, 2006
June 1, 2006-May 31, 2007

Contact Persons

States must submit to the FCC a contact person or office for TRS consumer information and complaints about intrastate TRS.

Sprint provides full support, including a primary point-of-contact, to contract administrators to meet FCC requirements.

Public Access to Info

Carriers, through publication in their directories, periodic billing inserts, placement of TRS instructions, in phone directories, DA services, & incorporation of TTY numbers in phone directories, shall assure that callers are aware of all forms of TRS.

Sprint follows all FCC requirements for public access to information and publishes in directories, brochures and billing inserts, instructions for TRS including 711 access in phone directories, DA services and the incorporation of TTY numbers in phone directories to assure that callers are aware of all forms of

FCC Requirement

Sprint's Commitment

Conduct ongoing education and outreach programs to publicize availability of 711 access.

TRS.

Sprint regularly provides 711 dialing information in its education and outreach programs.

Rates

TRS users shall pay rates no greater than the rates paid for functionally equivalent voice communication services with respect to such factors as the duration of the call, the time of day, and the distance from the point of origination to the point of termination.

Sprint TRS users pay rates no greater than the rates paid for functionally equivalent voice communication services.

Jurisdictional Separation of Costs

(i) General, where appropriate, costs of providing TRS shall be separated in accordance with the jurisdictional separation procedures and standards set for in the Commission's regulations

(i) Sprint follows FCC requirements in the jurisdictional separation of costs.

(ii) Cost recovery, Costs caused by interstate TRS shall be recovered from all subscribers for every interstate service, utilizing a shared-funding cost recovery mechanism

(ii) Interstate TRS is recovered from all subscribers for every interstate service utilizing the shared-funding cost recovery mechanism.

(iii) Telecommunications Relay Services Fund - To be administered by the National Exchange Carrier Association, Inc. (NECA)

(iii) Sprint works with NECA for reimbursement of interstate minutes.

Complaints

(i) Referral of complaint,

The Sprint TRS Customer Contact process is fully compliant with all FCC Requirements.

(ii) Intrastate complaint resolution,

(iii) Jurisdiction of Commission,

(iv) Interstate complaint resolution,

(v) Complaint Procedures

Treatment of TRS Customer Info

Future contacts between the TRS administrator and the TRS vendor shall provide for the transfer of TRS customer profile data from the outgoing TRS vendor to the incoming TRS vendor. Such data must be disclosed in usable form at least 60 days prior to the provider's last day of service, and shall not be sold, distributed, shared or revealed in any other way by the relay provider or its employees, unless compelled to do so by lawful order.

Sprint transfers TRS customer profile data to incoming TRS vendors. The data is provided in usable form at least 60 days prior to the last day of service and is not sold, distributed, shared or revealed in any other way by Sprint, or Sprint employees.

State Certification

Per FCC's Public Notice on TRS State Re-certification released 5/1/02, the FCC requests an application be submitted through State's Office of the Governor or other delegated executive office empowered to provide TRS.

Sprint provides each Sprint TRS state a re-certification packet and assists in the re-certification process.

Concluded that TRS providers should have access to SS7 or similar technology to make Caller ID and other benefits available and facilitate provision of TRS. (§16)

Sprint's SS7 platform supports Caller ID services.

Concluded that TRS providers are required to observe FCC's rules pertaining to Caller ID and call blocking services. (§22)

Sprint complies with all FCC rules pertaining to Caller ID and call blocking services.

Concluded that when a TRS facility is able to transmit any identifying information to the network, the TRS facility must pass through, to the called party, the number of TRS facility, 711, or, if possible, the 10-digit number of the calling party. The identifying information passed through the TRS facility to the called party is to be determined by the TRS Provider. (§25)

Sprint's SS7 platform transmits the 10-digit number for local and toll calls. Sprint's SS7 platform also will recognize the ID blocking indicators.

Concluded that the following call types are adopted as mandatory minimum standards of TRS.

Sprint has provided the VCO and HCO calling combinations since 1996.

Two Line VCO
Two Line HCO
HCO-to-TTY
HCO-to-HCO
VCO-to-TTY

FCC Order Ref. 90- 571	FCC Requirement	Sprint's Commitment
	<p>VCO-to-VCO</p> <p>This requirement is waived for Internet Relay and Video Relay Services through December 31, 2007. (§36)</p>	
	<p>Required that all TRS facilities be able to pass emergency callers to the appropriate PSAP within twelve months of publication of this Order in the Federal Register (8/24/03). (§42)</p> <p>This requirement has been waived for Internet Relay and Video Relay Services. (under separate Orders for SRO and VRS)</p>	<p>Sprint immediately connects emergency callers to an "appropriate" PSAP as defined by the FCC.</p>
	<p>This feature allows a TTY user to retrieve voice messages left on his or her voice mailbox or voice answering machine by an incoming call from a third party.</p> <p>Concluded that the answering machine retrieval to be provided on interstate and intrastate basis by 8/24/03. (§62)</p>	<p>Sprint has provided the Answering Machine Retrieval since 1996.</p>
	<p>Call release allows a CA to set up a TTY-to-TTY call that once set up does not require the CA to relay the relay the conversation.</p> <p>Ruled that once the CA signs off, or be "released," after the two TTY parties are connected, at this point, the call ceases to be a TRS call subject to the per-minute reimbursement." (§68)</p> <p>This requirement is waived for Internet Relay and Video Relay Services. (§76)</p>	<p>Sprint has provided the Call Release feature since 2003.</p> <p>Once a call is "released" from the CA workstation, the call is no longer a relay call and accordingly will not be charged to the state customer.</p>
	<p>Speed dialing allows users to manually store a list of telephone numbers with designated speed dialing codes in the TRS user's consumer profile.</p> <p>This requirement is waived for Internet Relay and Video Relay Services. (§76)</p>	<p>Sprint has provided Speed Dialing or Frequent Dialed Numbers feature since September 1, 1996.</p>